

Amendments to the Specification

At specification page 1, before the paragraph beginning with "[t]his is a nationalization of," insert the following heading:

CROSS-REFERENCE TO RELATED APPLICATION

At specification page 1, before the paragraph beginning with "[t]his invention relates to," insert the following headings:

BACKGROUND OF THE INVENTION

1. Field of Invention

At specification page 1, before the paragraph beginning with "[s]uch devices are used," insert the following heading:

2. Description of the Prior Art

At specification page 5, before the paragraph beginning with "[t]he object of this invention," insert the following heading:

SUMMARY OF THE INVENTION

At specification page 5, replace the paragraph beginning with "[t]his object is achieved" with the following replacement paragraph:

This object is achieved with a blood treatment device having the features of ~~Claim 1~~ described herein. Advantageous Other

advantageous embodiments of this invention are ~~the object of the~~
~~subclaims~~ also described herein.

At specification page 7, before the paragraph beginning with "[t]he blood treatment device," insert the following heading and paragraph:

BRIEF DESCRIPTION OF THE DRAWINGS

The drawing figure schematically illustrates an embodiment of a blood treatment device in accordance with the present invention.

At specification page 7, before the paragraph beginning with "[t]he blood treatment device," insert the following heading and paragraph:

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

At specification page 10, replace the paragraph beginning with "[t]he dialysis treatment is begun" with the following replacement paragraph:

The dialysis treatment is begun with a conventional composition of the dialysis fluid and conventional values for the blood flow Q_b and the dialysis fluid flow Q_d . After a measurement phase of a few minutes, at which point stable measured values have been established, the analyzer unit 32 obtains from the sensor 31 the concentration value C_{do} of potassium in the dialysis fluid outlet line 25. In addition, the concentration C_{di} of potassium in the dialysis fluid inlet line 22 is known to the analyzer unit 32 due to the predefined values of the control unit 34. To this end, a second similar sensor may also be provided in the dialysis fluid inlet line 22. The analyzer unit 32 determines with this information the blood concentration C_{bi} of potassium in the blood inlet line 11 using the following equation (J. A. Sargent and F. A. Gotch: "Principles and biophysics," in: *Replacement of Renal Function by Dialysis*, edited by C. Jacobs, et al., Kluwer Academic Publishers, Dordrecht, 1996, pp. 34ff):

$$C_{bi} = \frac{Q_d(C_{do} - C_{di})}{\alpha D} + \frac{C_{di}}{\alpha} \quad (1),$$

where D is the dialysance and $[\alpha]$ is the Gibbs-Donnan coefficient for potassium. The Gibbs-Donnan coefficient takes into

account the ionic character of potassium for the transport properties through a semipermeable membrane, where $\alpha=1$ can be equated in first approximation. Otherwise another value determined accordingly is stored in the analyzer unit 32.

At specification page 11, replace the paragraph beginning with "[a]fter a brief initial measurement phase" with the following replacement paragraph:

After a brief initial measurement phase, the analyzer unit 32 compares the initial measured value of Cbi with the first admissible value range stored ~~{in the unit}~~ (in the unit). If the value is already outside the admissible value range, the analyzer unit 32 delivers an alarm signal via the control unit 34 and draws attention to the critical blood concentration via a display and input unit 35, which is connected to the control unit over a data line 36. The blood treatment is stopped automatically, so that the operating personnel can perform the additional steps.

At specification page 12, replace the paragraph beginning with "[i]f the measured value" with the following replacement paragraph:

If the measured value is within the first admissible range, the analyzer unit specifies, on the basis of the limits of the first and second admissible ranges and optionally the third admissible range, the additional treatment parameters so that the

target value M_{end} for the total quantity of potassium to be withdrawn can be achieved as rapidly as possible within the third admissible value range without leaving all of the admissible value ranges. To do so, the dialysis fluid concentration is set at a value which is close to the lower limit of the first value range or at least at a distance from the instantaneous concentration value through a minimum difference. The dialysis fluid flow Q_d or the blood flow Q_b may optionally also be increased. In this way the dialysance and thus the transfer rate $\Delta M/\Delta t$ are also increased. The analyzer unit here may either proceed empirically or it may estimate the amount of time required for withdrawal of the quantity M_{end} on the basis of known equations for the dialysance of the concentrations and flows - as discovered in German Patent Application 10212247.4 so that it is possible to propose treatment parameters which permit complete withdrawal ~~{of the substance}~~ (of the substance) within the total treatment time T .

At specification page 14, after the last line, insert the following paragraph:

The invention being thus described, it will be apparent that the same may be varied in many ways. Such variations are not to be regarded as a departure from the spirit and scope of the invention, and all such modifications as would be recognized by one skilled in the art are intended to be included within the scope of the following claims.

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At specification page 15 (i.e., the first claims page),
replace the heading with the following replacement heading:

~~CLAIMS~~ WHAT IS CLAIMED IS: